

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Hu <i>et al.</i>	Prior Group Art Unit:	1646
Application No.:	Unknown	Prior Application Examiner:	M. Pak
Parent Application Serial Number 09/825,147			
Filed:	Concurrently Herewith	Attorney Docket No.:	LEX-0481-USA
Title: Novel Human Ion Channel Protein and Polynucleotides Encoding the Same			

REQUEST TO MAKE PRIOR ART FROM PREVIOUS APPLICATION OF RECORD


Assistant Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

The present paper constitutes Applicants' compliance with their duty of disclosure under 37 C.F.R. § 1.56. Please make all prior art of record in parent application Serial No. 09/825,147, filed April 3, 2001, of record in the present case, including that cited by the Office and Applicants. As a courtesy, copies of the Form PTO-1449s from the prior application are included herewith as **Exhibit A**.

Respectfully submitted,

March 17, 2004
Date



David W. Hibler Reg. No. 41,071
Agent for Applicants

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>			Complete if Known		
			Application Number	09/825,147	
			Filing Date	April 3, 2001	
			First Named Inventor	Hu, Yi	
			Group Art Unit	1646	
Examiner Name	To Be Assigned				
Attorney Docket Number	LEX-0160-USA				
Sheet	1	of	3		

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	AA	4,215,051		Schroeder et al	07/29/80	
	AB	4,376,110		David et al	03/08/83	
	AC	4,594,595		Struckman	06/10/86	
	AD	4,631,211		Houghten	12/23/86	
	AE	4,689,405		Frank et al	08/25/87	
	AF	4,713,326		Dattagupta et al	12/15/87	
	AG	4,873,191		Wagner et al	10/10/89	
	AH	4,946,778		Ladner et al	08/07/90	
	AI	5,252,743		Barrett et al	10/12/93	
	AJ	5,424,186		Fodor et al	06/13/95	
	AK	5,445,934		Fodor et al	08/29/95	
	AL	5,459,127		Felgner et al	10/17/95	
	AM	5,556,752		Lockhart et al	09/17/96	
	AN	5,700,637		Southern	12/23/97	
	AO	5,744,305		Fodor et al	04/28/98	
	AP	5,830,721		Stemmer et al	11/03/98	
	AQ	5,837,458		Minshull et al	11/17/98	
	AR	5,869,336		Meyer et al.	02/09/99	
	AS	5,877,397		Lonberg et al	03/02/99	
	AT	6,075,181		Kucherlapati et al	06/13/00	
	AU	6,110,490		Thierry	08/29/00	
	AV	6,150,584		Kucherlapati et al.	11/21/00	

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Figures Appear
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Examiner Signature	Date Considered
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Sheet	2	of	3		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
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	AW	Bird et al, 1988, "Single-Chain Antigen-Binding Proteins", Science 242:423-426.		
	AX	Bitter et al, 1987, "Expression and Secretion Vectors for Yeast", Methods in Enzymology 153:516-544.		
	AY	Colbere-Garapin et al, 1981, "A New Dominant Hybrid Selective Marker for Higher Eukaryotic Cells", J. Mol. Biol. 150:1-14.		
	AZ	Gautier et al, 1987, "α-DNA IV: α-anomeric and β-anomeric tetrathymidylates covalently linked to intercalating oxazopyridocarbazole. Synthesis, physiochemical properties and poly (rA) binding", Nucleic Acids Research 15(16):6625-6641.		
	BA	Gordon, 1989, "Transgenic Animals", International Review of Cytology, 115:171-229.		
	BB	Greenspan et al, 1993, "Idiotypes: structure and immunogenicity", FASEB Journal 7:437-444.		
	BC	Gu et al, 1994, "Deletion of a DNA Polymerase β Gene Segment in T Cells Using Cell Type-Specific Gene Targeting", Science 265:103-106.		
	BD	Huse et al, 1989, "Generation of a Large Combinatorial Library of the Immunoglobulin Repertoire in Phage Lambda", Science 246:1275-1281.		
	BE	Huston et al, 1988, "Protein engineering of antibody binding sites: Recovery of specific activity in an anti-digoxin single-chain Fv analogue produced in Escherichia coli", Proc. Natl. Acad. Sci. USA 85:5879-5883.		
	BF	Inoue et al, 1987, "Sequence-dependent hydrolysis of RNA using modified oligonucleotide splints and R Nase H", FEBS Letters 215(2):327-330.		
	BG	Inoue et al, 1987, "Synthesis and hybridization studies on two complementary nona(2'-O-methyl)ribonucleotides", Nucleic Acids Research 15(15):6131-6149.		
	BH	Inouye & Inouye, 1985, "Up-promoter mutations in the lpp gene of Escherichia coli", Nucleic Acids Research 13(9):3101-3110.		
	BI	Janknecht et al, 1991, "Rapid and efficient purification of native histidine-tagged protein expressed by recombinant vaccinia virus", PNAS 88:8972-8976.		
	BJ	Kohler & Milstein, 1975, "Continuous cultures of fused cells secreting antibody of predefined specificity", Nature 256:495-497.		
	BK	Lakso et al, 1992, "Targeted oncogene activation by site-specific recombination in transgenic mice", Proc. Natl. Acad. Sci. USA 89:6232-6236.		
	BL	Lam et al, 1991, "A new type of synthetic peptide library for identifying ligand-binding activity", Nature 354:82-86.		
	BM	Lavitrano et al, 1989, "Sperm Cells ad Vectors for Introducing Foreign DNA into Eggs: Genetic Transformation of Mice", Cell 57:717-723.		
	BN	Lo, 1983, "Transformation by Iontophoretic Microinjection of DNA: Multiple Integrations without Tandem Insertions", Mol. & Cell. Biology 3(10):1803-1814.		
	BO	Logan et al, 1984, "Adenovirus tripartite leader sequence enhances translation of mRNAs late after infection", Proc. Natl. Acad. Sci. USA 81:3655-3659.		
	BP	Lowy et al, 1980, "Isolation of Transforming DNA: Cloning the Hamster apt Gene", Cell 22:817-823.		
	BQ	Morrison et al, 1984, "Chimeric human antibody molecules: Mouse antigen-binding domains with human constant region domains", Proc. Natl. Acad. Sci. USA 81:6851-6855.		
	BR	Mulligan & Berg, 1981, "Selection for animal cells that express the Escherichia coli gene coding for xanthine-guanine phosphoribosyltransferase", Proc. Natl. Acad. Sci. USA 78(4):2072-2076.		
	BS	Neuberger et al, 1984, "Recombinant antibodies possessing novel effector functions", Nature 312:604-608.		
	BT	Nisonoff, 1991, "Idiotypes: Concepts and Applications", J. of Immunology 147:2429-2438.		
	BU	O'Hare et al, 1981, "Transformation of mouse fibroblasts to methotrexate resistance by a recombinant plasmid expressing a prokaryotic dihydrofolate reductase", Proc. Natl. Acad. Sci. USA 78(3):1527-1531.		
	BV	Ruther et al, 1983, "Easy identification of cDNA clones", EMBO Journal 2(10):1791-1794.		

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OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	BW	Santerre et al, 1984, "Expression of prokaryotic genes for hygromycin B and G418 resistance as dominant-selection markers in mouse L cells", Gene 30:147-156.	
	BX	Sarver et al, 1990, "Ribozymes as Potential Anti-HIV-1 Therapeutic Agents", Science 247:1222-1225.	
	BY	Shilo et al, 1981, "DNA sequences homologous to vertebrate oncogenes are conserved in Drosophila melanogaster", Proc. Natl. Acad. Sci. USA 78(11):6789-6792.	
	BZ	Stein et al, 1988, "Physicochemical properties of phosphorothioate oligodeoxynucleotides", Nucleic Acids Research 16(8):3209-3221.	
	AA	Szybalska & Szybalski, 1962, "Genetics of Human Cell Lines, IV. DNA-Mediated Heritable Transformation of a Biochemical Trait", Proc. Natl. Acad. Sci. USA 48:2026-2034.	
	AB	Takeda et al, 1985, "Construction of chimaeric processed immunoglobulin genes containing mouse variable and human constant region sequences", Nature 314:452-454.	
	AC	Thompson et al, 1989, "Germ Line Transmission and Expression of a Corrected HPRT Gene Produced by Gene Targeting in Embryonic Stem Cells", Cell 56:313-321.	
	AD	Van Der Putten et al, 1985, "Efficient insertion of genes into the mouse germ line via retroviral vectors", Proc. Natl. Acad. Sci. USA 82:6148-6152.	
	AE	Van Heeke et al, 1989, "Expression of Human Asparagine Synthetase in Escherichia coli", J. Biol. Chemistry 264(10):5503-5509.	
	AF	Ward et al, 1989, "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli", Nature 341:544-546.	
	AG	Wigler et al, 1977, "Transfer of Purified Herpes Virus Thymidine Kinase Gene to Cultured Mouse Cells", Cell 11:223-232.	
	AH	Wigler et al, 1980, "Transformation of mammalian cells with an amplifiable dominant-acting gene", Proc. Natl. Acad. Sci. USA 77(6):3567-3570.	

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		Filing Date	April 3, 2001		
		First Named Inventor	Hu, Yi		
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Shee	(use as many sheets as necessary)	of	1	Attorney Docket Number	LEX-0160-USA

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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	CI		WO 00 77035 A		Neurosearch AS	12-21-2000		
	CJ		WO 00 61606 A		Merck & Company	10-19-2000		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
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	CK	SCHROEDER B C ET AL, 2000, "KCNQ5, a novel potassium channel broadly expressed in brain, mediates M-type currents", Journal of Biological Chemistry, American Society of Biological Chemists, Baltimore, MD, US 275(31):24089-24095, XP002169158	
	CL	LERCHE C ET AL, 2000, "Molecular cloning and functional expression of KCNQ5, a potassium channel subunit that may contribute to neuronal M-current diversity", Journal of Biological Chemistry, American Society of Biological Chemists, Baltimore, MD, US 275(29):22395-22400, XP002169157	
	CM	KUBISCH CHRISTIAN ET AL, 1999, "KCNQ4, a novel potassium channel expressed in sensory outer hair cells, is mutated in dominant deafness.", Cell 96(3):437-446, XP002173745	
	CN	DATABASE EMBL 'Online! AW049888 (mus musculus EST), 4 March 2000, XP002173772	

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